SOURCE OF FEDERAL OSHA STANDARD(S):_ SCOPE: Applicable throughout state unless otherwise noted.

FEDERAL: §1910 Subpart D	STATE: GISO Section 3277	RATIONALE
Subpart D. Walking-Working Surfaces	Chapter 4, Subchapter 7. General Industry Safety Orders, Group 1. General physical conditions and structures, Article 4. Access, work space, and work areas	
1910.21. Definitions.	Section 3277 Fixed Ladders (b) Definitions. ***	
	Carrier. The track of a ladder safety system consisting of a flexible cable or rigid rail, which is secured to the ladder or structure by mountings.	Added for clarity, based on ANSI A14.3-2002.
(e)(13) "Ladder safety device." A ladder safety device is any device, other than a cage or well, designed to eliminate or reduce the possibility of accidental falls and which may incorporate such features as life belts, friction brakes, and sliding attachments.	~~Ladder Safety Device. A ladder safety device is any device, other than a cage or well, designed to eliminate or reduce the possibility of accidental falls and which may incorporate such features as life belts, friction brakes, and sliding attachments.~~ Ladder safety system. An approved assembly of components whose function is to arrest the fall of a user. The ladder safety system shall include the carrier and its associated attachment elements (brackets, fasteners, etc.), safety sleeve, full body harness and connectors, wherein the carrier is permanently attached to the climbing face of the ladder or immediately adjacent to the structure.	Amended for clarity, using ANSI A14.3-2002 terminology.
	Safety sleeve. The part of a ladder safety system consisting of the moving component with locking mechanism that travels on the carrier and makes the connection between the carrier and the full body harness.	Added for clarity, based on ANSI A14.3-2002.
1910.27. Fixed ladders.		
	(f) Clearance.	Modified for clarity: The adjective

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(c)(7) Hatch cover. Counterweighted hatch covers shall open a minimum of 60 degrees from the horizontal. The distance from the centerline of rungs or cleats to the edge of the hatch opening on the climbing side shall be not less than 24 inches for offset wells or 30 inches for straight wells. There shall be not protruding potential hazards within 24 inches of the centerline of rungs or cleats; any such hazards within 30 inches of the centerline of the rungs or cleats shall be fitted with deflector plates placed at an angle of 60 degrees from the horizontal as indicated in figure D-5. The relationship of a fixed ladder to an acceptable counterweighted hatch cover is illustrated in figure D-6.	… (7) ~~Counterweighted h~~Hatch covers, including counterweighted hatch covers, shall open a minimum of 60 degrees from the horizontal. The distance from the center line of rungs or cleats to the edge of the hatch opening on the climbing side shall be not less than 24 inches for offset wells or 30 inches for straight wells. There shall be no protruding potential hazards within 24 inches of the center line of rungs or cleats; any such hazards within 30 inches of the center line of the rungs or cleats shall be fitted with deflector plates placed at an angle of 60 degrees from the horizontal as indicated in Fig. 8. The relationship of a fixed ladder to an acceptable ~~counterweighted~~ hatch cover is illustrated in Fig. 9.	"counterweight" is proposed for removal as this section has been misconstrued to apply only to hatches with counterweights.
(d) Special requirements- (1) Cages or wells.	(g) Cages or Wells.	
(i) Cages or wells (except on chimney ladders) shall be built, as shown on the applicable drawings, covered in detail in figures D-7, D-8, and D-9, or of equivalent construction.	(g) Cages or Wells. (1) Construction. Cages or wells shall be built as shown on the applicable drawings, covered in detail in Figs. 1, 10, and 11, or of equivalent construction. EXCEPTION: Chimney ladders and manholes and underground vaults.	OK as-is. No changes proposed.
(ii) Cages or wells (except as provided in subparagraph (5) of this paragraph) conforming to the dimensions shown in figures D-7, D-8, and D-9 shall be provided on ladders of more than 20 feet to a maximum unbroken length of	(2) Dimensions and Maximum Length. Cages or wells (except as provided under (5)) conforming to the dimensions shown in Figs. 1, 10, and 11 shall be provided on ladders of more than 20 feet to a maximum unbroken length of	Existing Exception 2 updated for consistency with updated fall protection standards found elsewhere in Title 8.

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30 feet.	30 feet. EXCEPTIONS: (1) Fixed ladders on fire hose drying towers are not required to have a cage, well, offset platform, or ladder safety device if they do not exceed 30 feet in length and provided their use is restricted to trained fire fighters or others equally trained in ladder use. (2) Fixed ladders on outdoor advertising structures, where employees wear and use an approved personal fall protection system ~~safety belts and lanyards~~ which can be utilized if a rest period is required.	
(iii) Cages shall extend a minimum of 42 inches above the top of landing, unless other acceptable protection is provided.	(3) Top of Cage. Cages shall extend a minimum of 42 inches above the top of landing, unless other acceptable protection is provided.	No changes proposed (verbatim of federal).
(iv) Cages shall extend down the ladder to a point not less than 7 feet nor more than 8 feet above the base of the ladder, with bottom flared not less than 4 inches, or portion of cage opposite ladder shall be carried to the base.	(4) Bottom of Cage. Cages shall extend down the ladder to a point not less than 7 feet nor more than 8 feet above the base of the ladder, with bottom flared not less than 4 inches~~, or portion of cage opposite ladder shall be carried to the base~~. When the ladder base terminates on a landing platform or walkway at an elevation greater than 30 inches above the ground and the horizontal distance from the ladder rungs to the guardrail is 48 inches or less, a back-guard of at least the width of the cage shall be provided from the bottom of the cage to the guardrail or landing. (A) When the guardrail is located at a distance equal to or less than the distance from the rungs to the back edge of the cage, the back-guard shall be sloped and terminate on the guardrail.	OK as modified. Backguards proposed to be added to address hazard of climber falling over guardrail at bottom of cage.

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	(B) When the guardrail is located at a distance greater than the distance from the rungs to the back edge of the cage, up to and including 48 inches, it shall be constructed in a manner after that shown in Figure 11, "Inclined Ladders at Elevated Locations." (C) The back-guard shall be capable of withstanding a force of at least 200 pounds applied horizontally at any point on the back-guard. Back-guards may be of solid construction, grille work with openings not more than 8 inches long, or of slat-work with openings not more than 4 inches wide with unrestricted length. (D) Back-guards shall be free of hazardous projections.	
(v) Cages shall not extend less than 27 nor more than 28 inches from the centerline of the rungs of the ladder. Cage shall not be less than 27 inches in width. The inside shall be clear of projections. Vertical bars shall be located at a maximum spacing of 40 degrees around the circumference of the cage; this will give a maximum spacing of approximately 91/2 inches, center to center.	(5) Size of Cage. Cages shall not extend less than 27 nor more than 30 inches from the center line of the rungs of the ladder. Cage shall not be less than 27 inches in width. The inside shall be clear of projections. Vertical bars shall be located at a maximum spacing of 9-1/2 inches, center-to-center around the circumference.	Existing verbiage with non-substantive modification. Note: 30 inch maximum cage dimension is existing verbiage and is consistent with ANSI A14.3-2002, section 6.1.2. Limiting vertical bar spacing to 9-1/2 inches is more protective than maximum 40 degree spacing at 30 inches.
(vi) Ladder wells shall have a clear width of at least 15 inches measured each way from the centerline of the ladder. Smooth-walled wells shall be a minimum of 27 inches from the centerline of rungs to the well wall on the climbing side of the ladder. Where other obstructions on the climbing side of the ladder	(6) Ladder Wells. Ladder wells shall have a clear width of at least 15 inches measured each way from the center line of the ladder. (See Fig.1.) Smooth-walled wells shall be a minimum of 27 inches and a maximum of 30 inches from the center line of rungs to the well wall on the climbing side of the ladder. Where	Amended consistent with ANSI A14.3-2002, section 6.2.1.

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exist, there shall be a minimum of 30 inches from the centerline of the rungs.	other obstructions on the climbing side of the ladder exist, there shall be a minimum of 30 inches from the center line of the rungs.	
(2) Landing platforms. When ladders are used to ascend to heights exceeding 20 feet (except on chimneys), landing platforms shall be provided *for each 30 feet of height or fraction thereof, except that,… where no cage, well, or ladder safety device is provided, landing platforms shall be provided for each 20 feet of height or fraction thereof. Each ladder section shall be offset from adjacent sections. Where installation conditions (even for a short, unbroken length) require that adjacent sections be offset, landing platforms shall be provided at each offset. [Italicized text is continued below]*	(j) Landing Platforms. (1) When ladders are used to ascend to heights exceeding 20 feet (except on chimneys), landing platforms shall be provided as follows: ~~for each 30 feet of height or fraction thereof, except that,~~	The last 2.5 sentences of 1910.27(d)(2) *[italicized]* and Section 3277(j)(1) are continued in sections 3277(j)(1)(A), (B), (D) & (E) (below).
where no cage, well, or ladder safety device is provided, landing platforms shall be provided for each 20 feet of height or fraction thereof.	(A) ~~w~~Where no cage, well, or ladder safety ~~device~~ system is provided, landing platforms shall be provided for each 20 feet of height or fraction thereof.	
landing platforms shall be provided for each 30 feet of height or fraction thereof, except that,…	(B) Where a cage or well is provided and no ladder safety system is provided, landing platforms shall be provided for each 30 feet of height or fraction thereof.	
	(C) Where a ladder safety system is provided and used by all the ladder users, landing platforms, cages and wells shall be as required by subsection (m).	
Each ladder section shall be offset from adjacent sections.	(D) Each ladder section shall be offset from adjacent ladder sections at each landing.	
Where installation conditions (even for a short, unbroken length) require that adjacent sections	(E) Where installation conditions (even for a short, unbroken length) require that adjacent	

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be offset, landing platforms shall be provided at each offset.	sections be offset, landing platforms shall be provided at each offset. [See Subsection (m)].	
	EXCEPTIONS to subsection (j)(1): 1. Ladders in chimneys in underground mines, those used primarily in construction operations, fire escape ladders, and ladders equipped with treads. 2. Ladders on high-voltage transmission towers, smoke stack ladders, water tower ladders and similar fixed ladders on permanent installations which are used either infrequently or for emergency only provided the employee who uses the ladder is supplied with and wears an approved ~~belt~~ full body harness, with safety lanyards ~~straps~~ attached, which can be utilized if a rest period is required.	
1910.27(d)(2)(i) (i) Where a man has to step a distance greater than 12 inches from the centerline of the rung of a ladder to the nearest edge of structure or equipment, a landing platform shall be provided. The minimum step-across distance shall be 21/2 inches.	(2) Where an employee has to step a distance greater than 12 inches from the center line of the rung of a ladder to the nearest edge of structure or equipment, a landing platform shall be provided. The minimum step-across distance shall be 2 1/2 inches (Figure 7).	OK as-is.
1910.27(d)(2)(ii) (ii) All landing platforms shall be equipped with standard railings and toeboards, so arranged as to give safe access to the ladder. Platforms shall be not less than 24 inches in width and 30 inches in length.	(3) All landing platforms shall be equipped with guardrails and toeboards, so arranged as to give safe access to the ladder. Platforms shall be not less than 24 inches in width and 30 inches in length. Walkways, catwalks or work platforms may function as a landing platform providing they are at least 24 inches wide,	Existing verbatim of federal. Clarifications have been added.

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	measured perpendicular to the plane of the ladder rungs from the guardrails. Cage back-guards shall extend to the guardrail as required by Section 3277(g)(4).	
1910.27(d)(2)(iii) (iii) One rung of any section of ladder shall be located at the level of the landing laterally served by the ladder. Where access to the landing is through the ladder, the same rung spacing as used on the ladder shall be used from the landing platform to the first rung below the landing.	(4) One rung of any section of ladder shall be located at the level of the landing laterally served by the ladder. Where access to the landing is through the ladder, the same rung spacing as used on the ladder shall be used from the landing platform to the first rung below the landing (Figure 10).	No changes proposed (verbatim of federal).
(d)(5) Ladder safety devices. Ladder safety devices may be used on tower, water tank, and chimney ladders over 20 feet in unbroken length in lieu of cage protection. No landing platform is required in these cases. All ladder safety devices such as those that incorporate lifebelts, friction brakes, and sliding attachments shall meet the design requirements of the ladders which they serve.	(m) Ladder Safety ~~Devices~~ Systems. Ladder safety ~~devices~~ systems may be used on ~~tower, water tank, and chimney~~ ladders over 20 feet in unbroken length in lieu of cage protection. ~~No~~ A landing platform shall be required for every 150 feet of travel ~~in these cases~~. All ladder safety systems ~~devices such as those that incorporate life belts, friction brakes, and sliding attachments~~ shall be designed and installed in accordance with ANSI A14.3-2002, Section 7, Ladder Safety Systems, which is hereby incorporated by reference. ~~meet the design requirements of the ladders which they serve. [See subsection (c).]~~	Clarified to require design and installation per ANSI 14.3 industry standard.